

Exhibit 30

1 UNITED STATES DISTRICT COURT
2 NORTHERN DISTRICT OF CALIFORNIA
3 SAN JOSE DIVISION
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7 IN RE iPhone APPLICATION) CASE NO.:
8 LITIGATION,) 5:11-MD-02550-LHK
9 _____)
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11

12 **CONFIDENTIAL**
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16 VIDEOTAPED DEPOSITION OF JEFFREY G. BOLAS
17 LOS ANGELES, CALIFORNIA
18 WEDNESDAY, JANUARY 16, 2013
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22
23 REPORTED BY:
24 CHRISTY A. CANNARIATO, CSR #7954, RPR, CRR
25 JOB 57342

1 the record is clear on that.

2 Q. BY MR. KAMBER: Is there any -- are
3 there any publications that you reviewed -- that you
4 reviewed or relied upon in the preparation of your
5 report that aren't listed?

6 A. Listed where?

7 Q. Or either in the report -- in the --
8 well, let me tell you, there is none.

9 Are there any publications that you
10 reviewed or relied upon in the preparation of your
11 report?

12 A. Yes. I reviewed the UI Device
13 Programming Class; and the iOS Software Development
14 Kit; API or Application Programming Interface; and I
15 reviewed the specific methods that exist in the UI
16 Device Programming Class that allow application
17 developers to query certain properties about an iOS
18 device.

19 Q. And where did you get those from?

20 A. That's publicly available on the web.

21 Q. Where on the web did you get them from?

22 A. I think it's Apple's developer website.
23 I just did a simple search.

24 Q. Do you have copies of those?

25 A. No. I didn't make any copies.

1 you log in as a developer or was it one of the pages
2 that is publicly available to nondevelopers?

3 A. It is a page that is publicly available.
4 I did not log in.

5 Q. Are there any other publications,
6 websites, or other materials that you relied upon?

7 A. I have an understanding of the Apple
8 privacy policy which is also publicly available.

9 Q. Anything else?

10 A. That's all I can think of right now.

11 Q. Except for documents that are listed in
12 your report, did you receive any documents from
13 Apple or Gibson Dunn?

14 A. Yes, the documents that were produced in
15 response to the subpoena.

16 Q. Any other documents that were not -- any
17 documents that were not produced?

18 A. Can you rephrase the question?

19 Q. Referring to your last answer. You said
20 that they were -- I had asked if there was any other
21 documents reviewed, you said any documents reviewed
22 were produced in the report, paraphrasing, it is
23 what --

24 A. Are you asking are there any other
25 documents I reviewed or any other documents that

1 A. No, that's all I can think of.

2 Q. Did you speak to any Apple employees
3 during this engagement?

4 A. No.

5 Q. Did you rely upon the work of any
6 individuals that is not specifically set forth in
7 the report?

8 MR. JESSEN: Objection. Ambiguous.

9 A. What kind of individuals are you
10 referring to? We have the team of forensic
11 examiners, and that is set forth in the report.

12 Q. Correct.

13 A. Our work -- yeah, I think -- I don't
14 think I would characterize any work relied upon as
15 originating from anyone other than the forensic team
16 that did the analysis in this case.

17 Q. And aside -- and aside from the web page
18 that was listed, and the Apple privacy policy, there
19 are no other publications or printed materials upon
20 which you relied?

21 MR. JESSEN: Objection.

22 Q. Relied or referenced, I should say.

23 A. I mean, I believe I have already
24 answered that question, and to the best of my
25 recollection right now that's it.

1 know, the duration of the case.

2 And it is certainly true that a
3 reasonable percentage of those other cases where I
4 am not doing the direct forensic analysis but rather
5 supervising, providing guidance, and, you know, sort
6 of QC oversight on, do involve iPhones.

7 Q. You refer to "other smaller cases." Do
8 you consider this a larger case?

9 A. It's occupied a fair amount of my time
10 recently. Yeah.

11 Q. Is it a significant case to you in your
12 current workload?

13 A. I am devoting the full day today in
14 deposition, so I would answer yes.

15 Q. Looking through paragraphs 8 through 12
16 -- I'm sorry -- 8 through 11 of your declaration, is
17 your basis for those paragraphs anything besides
18 your own personal work experience with the iPhone?

19 MR. JESSEN: Obviously feel free to take
20 your time and read those.

21 A. With respect to paragraph 8, I have
22 already answered that that paragraph is based on my
23 personal and professional experience.

24 The same is true for paragraph 9. And
25 the same is true for paragraphs 10 and 11 with the

1 additional observation that paragraph 11 is where I
2 introduce the concept of the application programming
3 interface or the API.

4 And I would note that my review of the
5 UI device class, the publicly-available website --
6 web page that we already referenced, informed, I
7 believe was your question, my understanding.

8 Q. Okay. And with respect, then, to -- is
9 it accurate to state that paragraphs 11, 12, and 13
10 are based upon your own professional work experience
11 and informed by that particular web page that you
12 just cited to?

13 A. Yes.

14 Q. Do you know whether anyone at Apple or
15 affiliated with Apple reviewed paragraphs 8 through
16 13 or the information contained in paragraphs 8
17 through 13 to determine their accuracy?

18 A. I have no idea.

19 Q. Directing your attention to paragraph 15
20 of your declaration, is your understanding in that
21 paragraph based upon any information besides your
22 own personal experience and the reading of the
23 complaints in this action?

24 A. I read the complaints in this action. I
25 also discussed the case, as you might expect, with

1 apps they had installed.

2 Q. Let's look at footnote 1 on page 9,
3 paragraph 25. It states, "An HTTP POST request
4 sends data as part of their request, and, by their
5 nature, would not be identified as part of static
6 analysis."

7 So POST -- POST requests were not --
8 your analysis did not and was not able to find -- or
9 let me rephrase that.

10 Is that statement correct?

11 A. Yes, that statement is correct.

12 Q. Are you familiar with the frequency that
13 tracking companies use that command?

14 A. The frequency that tracking companies --

15 Q. Companies that use the request.

16 A. -- that use that request?

17 Q. You're doing an analysis of information
18 being sent to third-party tracking companies. Do
19 you have an understanding as to how often such
20 information is sent to tracking companies via a POST
21 request?

22 A. No, I'm not an expert in online
23 analytics, what you I think refer to as tracking
24 companies in this case. So I don't -- I don't think
25 I could offer any opinion on the frequency or volume

1 Pandora.

2 Q. When you say "provided directly to
3 Pandora," what do you mean?

4 A. Well, it's -- while I have no
5 understanding of how the app operates, I have a very
6 limited understanding of how a user might interact
7 with that app. But it's my understanding that when
8 a user signs up for the Pandora music service that
9 an account or profile is created, and I believe
10 there may be certain profile elements that have to
11 be filled out.

12 I don't -- I don't know for certain
13 whether gender information is required as part of
14 the registration process, but I certainly am
15 confident that the information on gender didn't
16 derive from the iOS API.

17 Q. Upon what do you base your expertise on
18 the operation of Pandora?

19 A. I would characterize my understanding of
20 Pandora not as expertise. So I think I would object
21 or respond to your question in that way and just say
22 I have a general understanding based on my -- my
23 review of the data available on Mr. Dwyer's phone as
24 well as our -- our team's review and my review of
25 information that's publicly available on Mr. Dwyer's

1 Is there anywhere in your report that
2 you are able to state that "no evidentiary support"
3 is the same as, you know, proving the negative; that
4 no evidentiary support means that it didn't happen;
5 that there wasn't such a transmission?

6 MR. JESSEN: Object to form.

7 A. I would want to carefully review the
8 entire declaration to see if there was even one
9 instance of language that equated the lack of
10 support -- the lack of forensic evidence in a
11 particular context as an attempt to answer a
12 specific question about historical usage and equates
13 that with a proof positive that something did not
14 occur.

15 To the best of my recollection, I do not
16 attempt to make that distinction. To the best of my
17 recollection, when we say there is no evidence
18 found, that's exactly -- it means nothing more and
19 nothing less than that. And the reader of the
20 declaration should not misinterpret the language
21 that there is no support or no forensic evidence
22 found to mean that there's proof positive that
23 something didn't occur.

24 Q. Okay. Let's go to our friend Miss
25 Capiro. On paragraph 77, why didn't you preserve

1 Q. How do you -- from your experience, how
2 do you know that an app is denied access to Location
3 Services until permission is affirmatively given?

4 A. When you -- when a user uses an app on
5 an iPhone that makes a request of Location Services,
6 if Location Services is turned off for that app or
7 turned off in its entirety, the user is prompted and
8 asked whether or not the app should be enabled to
9 use Location Services. And the user has to
10 affirmatively agree to turn it back on.

11 Q. And how do you know that if the user
12 doesn't affirmatively agree that Location Services
13 aren't still being given access to?

14 A. That's -- that's my understanding of how
15 Location Services work and how the -- how the
16 specific settings in the operating system work.

17 Q. Upon what do you base your belief?

18 A. Again, upon my experience testing and
19 interacting with iOS apps.

20 Q. What tests have you performed that
21 validate that an app is denied access to Location
22 Services until permission is affirmatively given?

23 A. We, as part of our testing of Capiro,
24 ran a series of tests on an iPhone to see whether or
25 not -- whether the -- let me back up -- a test to

1 see what changes are recorded in system
2 configuration files and how those relate to user
3 interactions of the Location Services master switch
4 and the app-specific switches.

5 That testing supported and confirmed our
6 understanding of how those settings are maintained.

7 Q. What version of the iOS was that test
8 performed on?

9 A. 4.3.3.

10 Q. What date was 4.3.3 made available by
11 Apple?

12 A. I don't know.

13 Q. Are you aware of the 4.3.3 was made
14 available for update by Apple after the end of the
15 class period?

16 A. I have not -- no. I had not compared
17 anything in particular, although my understanding of
18 the class period was that it was potentially still
19 open. So that doesn't make sense to me.

20 Q. Well, because your understanding is
21 incorrect on that.

22 MR. JESSEN: Objection. Move to strike.

23 MR. KAMBER: It's somewhat gratuitous.

24 MR. JESSEN: Your class definition is a
25 moving target. If at first you don't succeed, try,

1 try again.

2 MR. KAMBER: Are we done? We can stay
3 here --

4 MR. JESSEN: Is it possible you could
5 wrap this up?

6 MR. KAMBER: I've got plenty of time.
7 You're not making it -- by snide comments, that
8 doesn't make things go faster or encourage me to go
9 any faster.

10 Q. BY MR. KAMBER: Did you run any tests on
11 any version of the iOS prior to 4.3.3?

12 A. No.

13 Q. Are you aware of how Location Services
14 and its operation and the storage of location files
15 changed with the update of 4.3.3?

16 A. I don't have a -- I'm not a developer,
17 and I haven't tracked the specific version history
18 and its relation to Location Services. So I'm not
19 sure I have a full understanding of that.

20 Q. In your work, forensics work, do you
21 work with the consolidated.db database?

22 A. I am familiar with that database, but I
23 have actually done no casework where that database
24 was at issue.

25 Q. Are you familiar with the impact of the

1 consolidated.db database on the version 4.3.3
2 update?

3 A. What do you mean by "impact"?

4 Q. How it changed, any changes that may
5 have come to the consolidated.db database based on
6 that update.

7 A. I have very -- a very limited or vague
8 recollection of a change relating to, I think, based
9 on my reading of popular articles, I think latitude
10 and longitude coordinates that may have been stored
11 on that database, but it's not an issue I've studied
12 in any specific case work that I've done.

13 Q. Do you have any familiarity whatsoever
14 with the bug that impacted the version of the iOS
15 prior to the 4.3.3 update?

16 A. I don't have specific technical
17 knowledge of the -- of the bug, as you say. I have
18 to accept your characterization of it and what it
19 did. You're jogging my memory that maybe that's
20 what -- that was related to consolidated.db, but I'm
21 sorry, my memory is very hazy on that.

22 Q. Okay. But to your -- to your
23 recollection, those are not issues that are relevant
24 to your report?

25 A. Correct. I believe that if I understand

1 the specific date.

2 Q. On how many indications have you been --
3 have you supervised a forensic engagement to
4 determine whether Location Services were turned on
5 or off on an iOS device?

6 A. This is the first instance. This case
7 is the first instance in which that specific
8 forensic question of analyzing forensic data for
9 historical Location Services settings has been at
10 issue.

11 Q. Going to Exhibit C and referring to --
12 which of the five -- sorry -- which of the six
13 backups include information for the period between
14 June 21st, 2010 and April 27th, 2011?

15 A. April 27th, 2011 being the end of that
16 period, did you say?

17 Q. Yes.

18 A. Okay. Let me go through this.

19 The first two of the six listed backups
20 here contain services calls that are dated from the
21 period that ends April 27th, 2011.

22 Q. What is your understanding of what the
23 column "Last Location Services Call" means?

24 A. My understanding is that this is a
25 timestamp that is recorded in a plist associated

1 that Location Services was on and being used by apps
2 on her various phones on numerous dates in numerous
3 months in multiple years.

4 This was all in service of testing the
5 assertion by Ms. Capiro in the Complaint that she
6 had set Location Services to off.

7 Q. Did Miss Capiro say that she never
8 turned Location Services on in the Complaint?

9 A. Let me refer to my declaration.

10 The representation that we understood in
11 the Complaint states that she, "set the Location
12 Services function on her iPhone to off." That is a
13 general statement. It doesn't give us any
14 indication as to the timing of when it was set off,
15 turned off, or the number of times that she turned
16 it on or off.

17 And so without any more specific
18 information provided by your side in the Complaint,
19 we approached the question testing the assertion of
20 whether she set it off as broadly as possible using
21 the available data in all of these snapshots and on
22 those phones.

23 Q. Did you ask to look at the deposition to
24 see when she answered whether or when she turned it
25 on or off?

1 and off, and on and off again. But I again want to
2 emphasize that it would have to be affirmative
3 action by Miss Capiro to turn it back on in order to
4 query -- in order to -- for this data set to come
5 into being, because of the intermittent-but-frequent
6 location calls over this 12-day period.

7 Q. And when you say off and on, and off and
8 on, it is consistent with the data set -- just
9 making sure I'm understanding your off and on and
10 off and on.

11 It is consistent with your forensic
12 findings that she had Location Services on on
13 January 4th; that she turned them off on January
14 5th; that she turned it back on on January 8th; that
15 she turned it off on January 9th; that she turned it
16 on on January 14th; and that she turned it off
17 sometime thereafter, after January 15th.

18 MR. JESSEN: Object to form. Assumes
19 facts.

20 A. It's a hypothetical scenario. I
21 understand you to mean is the data consistent with
22 that hypothetical scenario. And I believe that it
23 is consistent. The forensic evidence doesn't inform
24 us, the available evidence, about the setting of the
25 master switch or any of the app-specific switches

1 for any of the periods for which we don't have data.

2 But we do have supporting evidence that
3 it was turned on, and that the app-specific searches
4 -- switches were enabled at different points in time
5 that are recorded and associated with these
6 timestamps.

7 Q. And it would also be consistent that she
8 had Location Services off for this entire period and
9 that Location Services -- and that the -- and that
10 the Location Services off did not work as intended,
11 and the call -- and the calls were still made but no
12 Location Service information was transmitted from
13 the phone to these apps. You have found no evidence
14 forensically that contradicts that, have you?

15 MR. JESSEN: Objection. Highly
16 misleading. Assumes facts not in evidence.
17 Incomplete hypothetical. Compound.

18 A. That seems to me to be a far less likely
19 explanation. I would want to see some sort of
20 evidence to support the assertion that there was
21 some -- some activity that would explain that in the
22 manner you describe. But I haven't seen any
23 evidence to support that.

24 Q. But there's nothing forensically that
25 disproves the hypothetical that I expressed to you,

1 doesn't -- you know, has issues with the use of
2 iPhones, that's unusual. But, yes, she did appear
3 to switch phones over time.

4 MR. KAMBER: I'm going to go off the
5 record for a second. We've got two and-a-half
6 minutes left.

7 THE VIDEOGRAPHER: Off the record. The
8 time is 7:01.

9 (Recess.)

10 THE VIDEOGRAPHER: Back on the record.
11 The time is 7:09.

12 Q. BY MR. KAMBER: Okay. Just about
13 wrapping up now.

14 In your submission of this declaration
15 in support of Apple's Motion for Summary Judgment,
16 are you putting yourself forward as an expert on
17 Apple's APIs?

18 A. No, I'm putting myself forward as a
19 forensic expert with experience and expertise in
20 analyzing digital media, including data on iOS
21 devices.

22 Q. Do you consider yourself an expert in
23 Apple's APIs and the data through which -- the data
24 that is transmitted through them?

25 A. Do I consider myself an expert in --

1 what was the second thing?

2 Q. Apple's APIs.

3 A. That was the first thing.

4 Q. And the data transmitted via those APIs
5 to third parties.

6 A. Transmitted via -- I'm sorry, via the
7 API or --

8 Q. I will rephrase it.

9 A. Okay.

10 Q. Are you an expert in whether certain
11 types of data can be procured through an Apple API?

12 A. I don't consider myself to be an expert
13 in development of iOS -- iOS apps or the -- the use
14 by third parties of those apps.

15 I consider myself an expert in digital
16 forensic analysis, which is the basis of this
17 declaration.

18 Q. Do you -- do you agree -- did you
19 conclude that most types of the information
20 Plaintiffs alleged cannot be procured through an
21 Apple-approved API?

22 A. Most type --

23 Q. Most types of information.

24 A. Most types of information --

25 Q. Is this statement true: Most types of